BULLETIN

of the

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

8.6.

BULLETIN

of the

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

L. C. SNIDER, *Editor*

ASSOCIATE EDITORS

GENERAL	K. C. HEALD, The Gulf Companies, Pittsburgh, Pa.
	HUGH D. MISER, U. S. Geological Survey, Washington, D. C.
	THERON WASSON, Room 2308, 35 E. Wacker Drive, Chicago, Ill.
GEOPHYSICS	B. B. WEATHERBY, Geophysical Research Corp., Tulsa, Okla.
APPALACHIAN	
North	JOHN R. REEVES, Penn-York Natural Gas Corp., Coudersport, Pa.
South	WILLIAM O. ZIEBOLD, 1572 Virginia Street, Charleston, W. Va.
NORTH CENTRAL STATES	W. A. THOMAS, The Pure Oil Company, Saginaw, Mich.
KANSAS	ANTHONY FOLGER, Gypsy Oil Company, Wichita, Kan.
OKLAHOMA	ROBERT H. DOTT, 1521 South Yorktown Avenue, Tulsa, Okla.
	GEORGE O. WILLIAMS, 2850 W. Twentieth, Oklahoma City, Okla.
TEXAS	
North and Central	M. G. CHENEY, Coleman, Tex.
Northeastern	E. A. WENDLANDT, Humble Oil and Refining Company, Tyler, Tex.
Panhandle	VICTOR E. COFFER, Columbian Carbon Company, Amarillo, Tex.
San Antonio	CHARLES H. ROW, Sun Oil Company, San Antonio, Tex.
Permian Basin	D. E. LOUNSBERY, Phillips Petroleum Corporation, San Angelo, Tex.
GULF COAST	DONALD C. BARTON, Petroleum Building, Houston, Tex.
	L. P. TEAS, Humble Oil and Refining Company, Houston, Tex.
ARKANSAS AND NORTH LOUISIANA	C. L. MOODY, Ohio Oil Company, Shreveport, La.
ROCKY MOUNTAIN	C. E. DOBBIN, 523 Customhouse Building, Denver, Colo.
CALIFORNIA	W. D. KLEINPELL, Box 1131, Bakersfield, Calif.
	W. S. W. KEW, Standard Oil Company, Los Angeles, Calif.
FOREIGN	
General	MARGARET C. COBB, Room 2703, 120 Broadway, New York, N. Y.
Europe and Mediterranean	W. P. HAYNES, 68 Pall Mall, London, S.W. 1, England
Canada	B. F. HAKE, Nordon Corporation, Ltd., Calgary, Alberta

J. P. D. HULL, *Business Manager*

VOLUME 17

JANUARY—DECEMBER 1933

PART 1

PAGES 1-756

ASSOCIATION HEADQUARTERS
OFFICE OF THE BUSINESS MANAGER
BOX 1852, TULSA, OKLAHOMA

Science Library
TN
860
.A512b
Copy 2

THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, INC.

OFFICERS FOR THE YEAR ENDING MARCH, 1934

FRANK RINKER CLARK, *President*
Tulsa, Oklahoma

FREDERIC H. LAHEE, *Past-President*
Dallas, Texas

GEORGE SAWTELLE, *Vice-President*
Houston, Texas

WILLIAM B. HEROY, *Secretary-Treasurer*, New York, N. Y.

L. C. SNIDER, *Editor*, New York, N. Y.

DISTRICT REPRESENTATIVES

(Representatives' terms expire immediately after annual meetings of the years shown in parentheses.)

Amarillo:
J. D. Thompson, Jr. (1934), Amarillo, Tex.
Appalachian:
H. E. Crum (1935), Charleston, W. Va.
Canada:
Theodore A. Link (1935), Calgary, Canada
Capital:
Arthur A. Baker (1934), Washington, D. C.
Dallas:
L. W. Orynski (1934), Dallas, Tex.
East Oklahoma:
Albert L. Beekly (1934), Tulsa, Okla.
R. T. Lyons (1935), Tulsa, Okla.
A. F. Morris (1935), Bartlesville, Okla.
Fort Worth:
H. B. Fuqua (1935), Fort Worth, Tex.
Great Lakes:
Theron Wasson (1933), Chicago, Ill.
Houston:
Paul Weaver (1935), Houston, Tex.
Mexico:
S. A. Grogan (1935), Tampico, Mexico
New Mexico:
Edgar Kraus (1935), Carlsbad, New Mexico
New York:
James Terry Duce (1935), New York, N. Y.
Pacific Coast:
Walter A. English (1934), Los Angeles, Calif.
Roy G. Mead (1935), Los Angeles, Calif.
Clarence B. Osborne (1935), Los Angeles, Calif.
Rocky Mountains:
C. E. Dobbin (1935), Denver, Colo.
San Antonio:
Joseph M. Dawson (1935), San Antonio, Tex.
Shreveport:
M. W. Grimm (1935), Shreveport, La.
South America:
Philip E. Nolan (1935), Maracaibo, Venezuela, S.A.
So. Permian Basin:
John F. Hosterman (1935), San Angelo, Tex.
West Oklahoma:
Roland W. Laughlin (1935), Oklahoma City, Okla.
Wichita:
E. A. Wyman (1935), Wichita, Kan.
Wichita Falls:
William M. Nicholls (1934), Wichita Falls, Tex.

DIVISION REPRESENTATIVES

Paleontology and Mineralogy:
Herschel L. Driver (1933), Los Angeles, Calif.
Norman L. Thomas (1933), Fort Worth, Tex.
Geophysics:
E. E. Rosaire (1934), Houston, Tex.
G. H. Westby (1934), Tulsa, Okla.

OFFICERS FOR THE YEAR ENDING MARCH, 1933

President: FREDERIC H. LAHEE

Past-President: LOVIC P. GARRETT

Vice-President: ROBERT J. RIGGS

Secretary-Treasurer: WILLIAM B. HEROY

Editor: R. D. REED

COPYRIGHT 1933 BY
THE AMERICAN ASSOCIATION OF
PETROLEUM GEOLOGISTS

PUBLISHED
MONTHLY

Composed and Printed by
George Banta Publishing Company
Menasha, Wisconsin, U.S.A.

Science Library
E Engin
Direct
3-29-51

CONTENTS OF VOLUME 17

PART 1

NUMBER 1

Geology of McKittrick Oil Field and Vicinity, Kern County, California. J. A. Taff 1
Darst Creek Oil Field, Guadalupe County, Texas. H. D. McCallum 16
Pre-Tertiary Rocks from Deep Wells at Jackson, Mississippi. Watson H. Monroe 38
Microflora of Oil Waters and Oil-Bearing Formations and Biochemical Processes Caused by It. T. L. Ginsburg-Karagitscheva 52
Base-Replacement Studies of Oklahoma Shales—Critique of Taylor Hypothesis. L. C. Case 66
Geological Notes
Graptolites in Kansas, *W. A. Ver Wiebe* 80
Some Eocene Localities in Salinas Valley District, California, *M. G. Edwards* 81
The Name "Lillis Formation" in California Geology, *G. Dallas Hanna* 81
Discussion
Coral Reefs and Atolls, *E. Russell Lloyd* 85
Papers on Applied Geophysics, *L. W. Blau* 87
Permo-Carboniferous Orogeny in United States, *W. A. J. M. van der Gracht* 91
Reviews and New Publications 97
The Association Round Table 102
Memorial
George Irving Adams, *D. R. Semmes* 103
At Home and Abroad 105

NUMBER 2

Ancestral Rockies and Mesozoic and Late Paleozoic Stratigraphy of Rocky Mountain Region. Ross L. Heaton . . 109
Voshell Field, McPherson County, Kansas. T. C. Hiestand . 169
Geological Notes
Ackerman Formation in Alabama, *C. Wythe Cooke* . . . 192
Reviews and New Publications 196
The Association Round Table 202
Executive Committee Meeting, November 29, 1932 . . 202
Memorial
Ulysses S. Grant, *John R. Ball* 206
At Home and Abroad 208

NUMBER 3

TECTONIC STRUCTURE OF NORTHERN ANDES IN COLOMBIA AND VENEZUELA. Henry de Cizancourt 211
RESERVOIR ROCKS OF PERSIAN OIL FIELDS. G. M. Lees . . . 229
PERMIAN OF LOGAN AND LINCOLN COUNTIES, OKLAHOMA. Joseph M. Patterson 241
CORRELATION OF REFLECTION SEISMOGRAPH RECORDS IN CALIFORNIA. Henry Salvatori 257
DISCUSSION
Character of Producing Sandstones and Limestones of Wyoming and Montana, *Horace D. Thomas* 268
REVIEWS AND NEW PUBLICATIONS 270
THE ASSOCIATION ROUND TABLE 274
Financial Statement, 1932 275
Membership List 280
MEMORIAL
Sidney Powers
Eulogy, *W. E. Wrather* 325
Biography, *Frank R. Clark* 328
Erasmus Haworth, *Raymond C. Moore* 343
William G. Gallagher, Jr., *S. Grinsfelder* 345
AT HOME AND ABROAD 346

NUMBER 4

COLORADO SYMPOSIUM
PREFACE. R. Clare Coffin 351
MEANING OF UNCONFORMITIES IN STRATIGRAPHY OF CENTRAL COLORADO. T. S. Lovering and J. Harlan Johnson 353
PRE-PENNSYLVANIAN STRATIGRAPHY OF FRONT RANGE IN COLORADO. A. E. Brainerd, H. L. Baldwin, Jr., and I. A. Keyte . . 375
MONTANA GROUP IN EASTERN COLORADO. Charles S. Lavington . 397
CHARACTERISTICS OF OLDER CRETACEOUS FORMATIONS OF NORTHEASTERN COLORADO. W. A. Waldschmidt 411
STUDY OF WELL SECTIONS IN NORTHEASTERN COLORADO. Charles H. Rankin, Jr. 422
PRESENT DEVELOPMENT IN GREASEWOOD AREA, WELD AND MORGAN COUNTIES, COLORADO. Harry A. Aurand 433
STRUCTURE MAP OF EASTERN COLORADO AND PARTS OF ADJACENT STATES 436
GEOLOGICAL NOTES
Notes on an Occurrence of Galena at Pierce Junction Salt Dome, Harris County, Texas, *Marcus A. Hanna and W. G. Parker* 438
Recent Movements on a Fault of Balcones System, McLennan County, Texas, *Frank Bryan* 439
Notes on Submarine Geological Exploration, *Stanley C. Herold and Harold L. Fudge* 442

Gas on Marysville Buttes, Sutter County, California, *Walter Stadler* 443
REVIEWS AND NEW PUBLICATIONS 444
THE ASSOCIATION ROUND TABLE 447
AT HOME AND ABROAD 450

NUMBER 5

LISSIE, REYNOSA, AND UPLAND TERRACE DEPOSITS OF COASTAL PLAIN OF TEXAS BETWEEN BRAZOS RIVER AND RIO GRANDE. Albert W. Weeks 453
REYNOSA PROBLEM OF SOUTH TEXAS, AND ORIGIN OF CALICHE. W. Armstrong Price 488
STRATIGRAPHY OF OAKVILLE, LAGARTO, AND REYNOSA FORMATIONS BETWEEN NUECES AND GUADALUPE RIVERS, TEXAS. E. L. Johnson 523
DETAILED STUDY OF SOME BEDS, COMMONLY KNOWN AS CATAHOULA FORMATION, IN FAYETTE COUNTY, TEXAS, WITH PARTICULAR REFERENCE TO THEIR AGE. Leslie Bowling and Arno P. Wendler 526
PETROLEUM GEOLOGY. PRESIDENTIAL ADDRESS. Frederic H. Lahee . 548
GEOLOGICAL NOTES
Recent Developments in Texas and Louisiana Gulf Coast, *J. Brian Eby* 558
DISCUSSION
Permian of Logan and Lincoln Counties, Oklahoma, *W. L. Graham and Joseph M. Patterson* 562
Reservoir Rocks of Persian Oil Fields and Other Limestone Reservoirs, *W. V. Howard* 563
REVIEWS AND NEW PUBLICATIONS 566
THE ASSOCIATION ROUND TABLE 569
Eighteenth Annual Meeting, The American Association of Petroleum Geologists, Rice Hotel, Houston, Texas, March 23–25, 1933 569
Minutes of Business Meeting 576
Executive Committee Meeting, Houston, Texas, March 21 and 25, 1933 607
AT HOME AND ABROAD 610

NUMBER 6

REVIEW OF TERTIARY STRATIGRAPHY OF LOUISIANA. Henry V. Howe 613
STRUCTURE AND STRATIGRAPHY, KELSEY ANTICLINE, UPSHUR COUNTY, TEXAS. A. R. Denison, A. E. Oldham, and J. W. Kisling, Jr. 656
RESULTS OF STRUCTURAL RESEARCH WORK IN BEARTOOTH-BIGHORN REGION, MONTANA AND WYOMING. W. H. Bucher, R. T. Chamberlin, and W. T. Thom, Jr. 680

Analysis and Effects of Current Movement on an Active Fault in Buena Vista Hills Oil Field, Kern County, California. Thomas W. Koch 694
Rôle of Cap Rock in Oil Accumulation. Robinson P. Lockwood 713
Geological Notes
Long Beach, California, Earthquake of March 10, 1933, *J. Edmund Eaton* 732
Cracks Produced by Long Beach, California, Earthquake, *Donuil Hillis* 739
Projection of Dip Angle on Profile Section, *Stanley C. Herold* 740
Suggested Research on Origin of Petroleum, *F. M. Van Tuyl and Ben H. Parker* 743
Kincaid Formation, Name Proposed for Lower Midway of Texas, *Julia Gardner* 744
Reviews and New Publications 748
The Association Round Table 750
Memorial
Eugene Crittenden Templeton, *Harry R. Johnson* . . . 752
At Home and Abroad 753

ERRATA

Page 507, line 6 from bottom: "non-calcareous caliche" should be non-calcareous *sediments*.

Page 661, 2d new paragraph, line 5: "no conformable" should be no *unconformable*.

Page 668, cut line belongs to map on page 669.

Page 669, cut line belongs to map on page 670.

Page 670, cut line belongs to map on page 668.